

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT

(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.

SETI-0007

In Re Application: Shur et al.

Serial No.

10/696,693

Filing Date

10/29/2003

Examiner

Unknown

Group Art Unit

Unknown

METHOD OF RADIATION GENERATION AND MANIPULATION**Payment of Fee**

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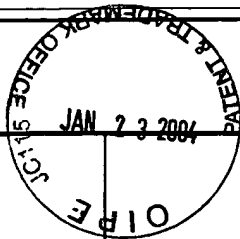
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Title: **METHOD OF RADIATION GENERATION AND MANIPULATION**

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37 CFR 1.97(b)

1. ☒ The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

37 CFR 1.97(c)

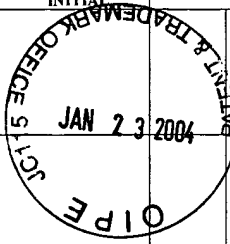
2. ☐ The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:

☐ the statement specified in 37 CFR 1.97(e);

OR

☐ the fee set forth in 37 CFR 1.17(p).

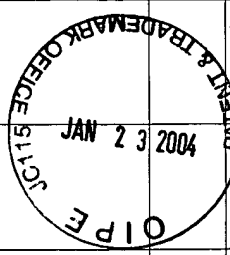
INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) SETI-0007	Application Number 10/696,693
		Applicant(s) Shur et al.	
		Filing Date 10/29/2003	Group Art Unit Unkn wn

*EXAMINER INITIAL	OTHER DOCUMENTS	<i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>
		"Coherent THz Emission in Semiconductors," Semiconductors and Semimetals, Chapt. 8, Vol. 67, 2001, pp.389-440.
		"Conductance of Small Semiconductor Devices," A. A. Kastalsky et al. Solid State Comm., Vol. 39, No. 6, 1981, pp. 107-114.
		"Impedance of Thin Semiconductor Films in Low Electric Field," K. Lee et al., Journal of Applied Physics, Vol. 54, No. 7, July 1983, pp. 4028-4034.
		"Ballistic Transport in High Mobility Semiconductors," M. I. Dyakonov et al., The Physics of Semiconductors, 1996, pp. 145-148.
		"Ballistic Transport in a Semiconductor with Collisions," M. Shur, IEEE Transactions on Electron Devices, Vol. ED-28, No. 10, October 1981, pp. 1120-1130.
		"Detection, Mixing, and Frequency Multiplication of Terahertz Radiation by Two-Dimensional Electronic Fluid," M. Dyakonov et al., IEEE Transactions on Electron Devices, Vol. 43, No. 3, March 1996, pp. 380-387.
		"Shallow Water Analogy for a Ballistic Field Effect Transistor: New Mechanism of Plasma Wave Generation by dc Current," M. Dyakonov et al., Physical Review Letters, Vol. 71, No. 15, October 1993, pp. 2465-2468.
		"Plasma Wave Electronics," M. Shur et al., Terahertz Sensing Technology, Vol. 1: Electronic Devices and Advanced Technology, 2003.
		"Possible Crystallization of Charge Carrier in Low-Density Inversion Layers," A. V. Chaplik, Soviet Physics JETP, Vol. 35, No. 2, August 1972, pp. 395-397.
		"Theory of Surface Waves Coupled to Surface Carriers," M. Nakayama, Journal of the Physical Society of Japan, Vol. 36, No. 2, February 1974, pp. 393-398.
	"Preface: High Speed Integrated Circuit Technology, Towards 100 GHz Logic," M. J. W. Rodwell, World Scientific, http://www.worldscinet.com/ijhses/11/1101/S0129156401000769.html , pp. 1-2.	
	"Observation of the Two-Dimensional Plasmon in Silicon Inversion Layers," S. J. Allen, Jr. et al., Physical Review Letters, Vol. 38, No. 17, April 1977, pp. 980-983.	

EXAMINER	DATE CONSIDERED
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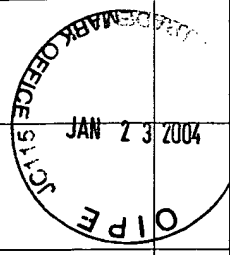
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	"Far Infrared Emission from Plasma Oscillations of Si Inversion Layers," D.C. Tsui et al., Solid State Communications, Vol. 35, 1980, pp. 875-877.
	"High Frequency Conductivity of the High-Mobility Two-Dimensional Electron Gas," P. J. Burke et al., Applied Physics Letters, Vol. 76, No. 6, February 2000, pp. 745-747.
	"A Resonant Terahertz Detector Utilizing a High Electron Mobility Transistor," J-Q. Lu et al., IEDM '98 Technical Digest, 1998, pp. 453-456.
	"Resonant Detection of Subterahertz Radiation by Plasma Waves in a Submicron Field-Effect Transistor," W. Knap et al., Applied Physics Letters, Vol. 80, No. 18, May 2002, pp. 3433-3435.
	"Terahertz Photoconductivity and Plasmon Modes in Double-Quantum-Well Field-Effect Transistors," X. G. Peralta et al., Applied Physics Letters, Vol. 81, No. 9, August 2002, pp. 1627-1629.
	"Ballistic FET as Tunable Terahertz Oscillator," M. Dyakonov et al., Proceedings of 2d International Semiconductor Device Research Symposium, Charlottesville, VA, December 1993, pp. 741-744.
	"Terahertz GaAs Devices and Circuits for Heterodyne Receiver Applications," T. Crowe et al., Compound Semiconductor Electronics The Age of Maturity: Selected Topics in Electronics and Systems, Vol. 4, 1996, pp. 209-245.
	"Materials for Terahertz Science and Technology," B. Ferguson et al., Nature Materials, Vol. 1, September 2002, pp. 26-33.
	"A Novel Schottky / 2-DEG Diode for Millimeter- and Submillimeter-Wave Multiplier Applications," W. C. B. Peatman et al., IEEE Electron Device Letters, Vol. 13, No. 1, January 1992, pp. 11-13.
	"Plasma Wave Electronics: Novel Terahertz Devices Using Two Dimensional Electron Fluid," M. Dyakonov et al., IEEE Transactions on Electron Devices, Vol. 43, No. 10, October 1996, pp. 1640-1645.
	"A Schottky/2-DEG Varactor Diode for Millimeter and Submillimeter Wave Multiplier Applications," W. C. B. Peatman et al., The Third International Conference on Space THz Technology, Ann Arbor, MI, March 24-26, 1992, pp. 1-17.
	"Narrow Channel 2-D MESFET for Low Power Electronics," W. C. B. Peatman et al., IEEE Transactions on Electron Devices, Vol. 42, No. 9, September 1995, pp. 1569-1573.

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	"Resonant Detection and Frequency Multiplication of Terahertz Radiation Utilizing Plasma Waves in Resonant-Tunneling Transistors," V. Ryzhii et al., Journal of Applied Physics, Vol. 88, No. 5, September 2000, pp. 2868-2871.		
	"Terahertz Photomixing in Quantum Well Structures Using Resonant Excitation of Plasma Oscillations," V. Ryzhii et al., Journal of Applied Physics, Vol. 91, No. 4, February 2002, pp. 1875-1881.		
	"The Ballistic Nano-Transistor," G. Timp et al., IEDM Technical Digest, 1999, pp. 55 - 58.		
	"Transistor Characteristics of 14-nm-Gate-Length EJ-MOSFET's," H. Kawaura et al., IEEE Transactions on Electron Devices, Vol. 47, No. 4, April 2000, pp. 856-860.		
	"Novel Heterodimensional Diodes and Transistors," M. S. Shur et al., Solid-State Electronics, Vol. 38, No. 9, 1995, pp. 1727-1730.		
	"Comparison of 2-D and 3-D Side-Gated FETs," M. J. Hurt et al., Proceedings of International Semiconductor Device Research Symposium, Vol. 1, Charlottesville, VA, ISBN 1-880920-04-4, December 1995, pp. 79-82.		
	"Two Dimensional Electrons in Field Effect Transistors," M. S. Shur et al., International Journal of High Speed Electronics and Systems, Vol. 9, No. 1, March 1998, pp. 65-99.		
	"Ballistic Transport in Semiconductor at Low Temperatures for Low-Power High-Speed Logic," M. S. Shur et al., IEEE Transactions on Electron Devices, Vol. Ed-26, No. 11, November 1979, pp. 1677-1683.		
	"Low Ballistic Mobility in Submicron High Electron Mobility Transistors," M. S. Shur, IEEE EDL, Vol. 23, No. 9, September 2002, pp. 511-513.		
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